ABSTRACT OF THE DISCLOSURE

Used noble metal-containing titanium zeolite catalysts, that have been employed in the liquid-phase epoxidation of olefins with hydrogen and oxygen in the presence of a buffer, are regenerated by heating the used catalyst at a temperature of at least 250°C in the presence of a oxygen-containing gas stream, followed by reduction at a temperature of at least 20°C in the presence of a hydrogen-containing gas stream to form a reactivated catalyst.